



Exelon Generation®

10 CFR 50.73

NMP1L3293  
July 26, 2019

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Nine Mile Point Nuclear Station, Unit 1  
Renewed Facility Operating License No. DPR-63  
Docket No. 50-220

Subject: NMP1 Licensee Event Report 2019-001, Revision 1, Automatic Reactor Scram  
Due to High Reactor Pressure

The original NMP1 LER 2019-001 was submitted June 13, 2019. Enclosed is NMP1 Licensee Event Report (LER) 2019-001, Revision 1, Automatic Reactor Scram Due to High Reactor Pressure. This revision is to provide additional details on the cause of the event and the corrective actions following completion of the root cause analysis.

There are no regulatory commitments contained in this letter.

Should you have any questions regarding the information in this submittal, please contact Brandon Shultz, Site Regulatory Assurance Manager, at (315) 349-7012.

Respectfully,

Todd A. Tierney  
Plant Manager, Nine Mile Point Nuclear Station  
Exelon Generation Company, LLC

TAT/RMD

Enclosure: NMP1 Licensee Event Report 2019-001, Revision 1, Automatic Reactor Scram  
Due to High Reactor Pressure.

cc: NRC Regional Administrator, Region I  
NRC Resident Inspector  
NRC Project Manager

IEZZ  
NRK

**Enclosure**

NMP1 Licensee Event 2019-001, Revision 1,  
Automatic Reactor Scram Due to High Reactor Pressure

Nine Mile Point Nuclear Station, Unit 1

Renewed Facility Operating License No. DPR-63



# **LICENSEE EVENT REPORT (LER)**

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

**1. FACILITY NAME**

Nine Mile Point Unit 1

**2. DOCKET NUMBER**

05000220

**3. PAGE**

1 OF 5

**4. TITLE**

Automatic Reactor Scram due to High Reactor Pressure

**5. EVENT DATE**

MONTH	DAY	YEAR
04	14	2019

**6. LER NUMBER**

YEAR	SEQUENTIAL NUMBER	REV NO.
2019	001	01

**7. REPORT DATE**

MONTH	DAY	YEAR
07	26	2019

**8. OTHER FACILITIES INVOLVED**

FACILITY NAME	DOCKET NUMBER
N/A	N/A
FACILITY NAME	DOCKET NUMBER
N/A	N/A

**9. OPERATING MODE****11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)**

N

<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)

**10. POWER LEVEL**

021

<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A

**12. LICENSEE CONTACT FOR THIS LER**

## LICENSEE CONTACT

Brandon Shultz, Site Regulatory Assurance Manager

## TELEPHONE NUMBER (Include Area Code)

(315) 349-7012

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	JA	PCV	GE	Y	N/A	N/A	N/A	N/A	N/A

**14. SUPPLEMENTAL REPORT EXPECTED**☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO**15. EXPECTED SUBMISSION DATE**

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On April 14, 2019 at 00:03, Nine Mile Point Unit 1 received an automatic scram of the reactor due to high reactor pressure. Due to the Turbine trip, the High Pressure Coolant Injection (HPCI) System automatically initiated, as designed. This event is reportable under 10 CFR 50.72(b)(2)(iv)(B) and 10 CFR 50.72(b)(3)(iv)(A) as any event or condition that resulted in a manual or automatic actuation of any of the systems listed in 10 CFR 50.72(b)(3)(iv)(B).

The cause of the scram is that station personnel did not identify that the Restoring Arm Breakdown was incorrectly installed and therefore non-functional. This resulted in ineffective knowledge-based troubleshooting to correct a condition as opposed to corrections with controlled technical guidance and the right expertise.

The event described in this LER is documented in the plant's corrective action program.

**LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET**

(See NUREG-1022, R.3 for instruction and guidance for completing this form  
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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Nine Mile Point Unit 1	05000220	2019	- 001	- 01

**NARRATIVE****I. DESCRIPTION OF EVENT****A. PRE-EVENT PLANT CONDITIONS:**

Prior to the event, Nine Mile Point Unit 1 (NMP1) was in the Power Operating Condition at 21% reactor power. Post maintenance testing was being performed on main turbine stop valve #13 (VLV-SV-2). The main turbine was at full speed of 1800 rpm, and no-load conditions.

**B. EVENT:**

On April 14, 2019, at approximately 0003 with the reactor at approximately 21% power, NMP1 experienced a reactor scram due to high reactor pressure. This occurred during post maintenance testing (PMT) of Turbine Stop Valve (TSV) 13. During reactor startup, the TSV 13 internal bypass valve would not open to allow for turbine chest heating. This resulted in the need for system troubleshooting. During the troubleshooting effort, a lack of procedural guidance and system Subject Matter Expertise resulted in improper adjustment of Mechanical Hydraulic Control (MHC) system linkage that caused the valve to respond too quickly. During post maintenance testing, the valve was stroked closed and then back open. During the open stroke, the valve opened too quickly, stop valve oil header pressure dropped allowing all four disc dumps to open and all four turbine stop valves to close. A full turbine trip signal was not experienced, and the turbine control system remained in speed control with the Control Valves and Bypass Valves operational. During turbine coast down, the turbine speed control system attempted to maintain turbine speed by opening the control valves and subsequently closing the bypass valves. This resulted in a rapid increase in reactor pressure and an automatic scram signal at 1080 psig. At the high reactor pressure setpoint of 1080 psig, an automatic reactor scram and subsequent turbine trip occurred. The turbine trip resulted in a HPCI initiation as designed.

Troubleshooting following the event identified the Restoring Arm Breakdown was loose. The Restoring Arm Breakdown provides fine control of the Stop Valve position to control the internal bypass of main turbine stop valve #13, which is used for shell warming.

Nine Mile Point Unit 2 (NMP2) was unaffected by the scram at NMP1.

Operations performed the ENS notification (#53998) required by 10 CFR 50.72(b)(2)(iv)(B) and 10 CFR 50.72(b)(3)(iv)(A) for the automatic reactor scram and specified system activations.

This event has been entered into the plant's corrective action program as IR 4239350.

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**NARRATIVE****C. INOPERABLE STRUCTURES, COMPONENTS, OR SYSTEMS THAT CONTRIBUTED TO THE EVENT:**

No other systems, structures, or components contributed to this event.

**D. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES AND OPERATOR ACTIONS:**

The dates, times, and major occurrences and operator actions for this event are as follows:

April 14, 2019

00:01:15 —TSV-13 stroked close  
00:01:41 —TSV-13 opened  
00:01:44 —All Turbine Stop Valves closed  
00:02:57 —Bypass Valves start to shut  
00:03:16 —Reactor Scram on high reactor pressure  
00:03:19 —Turbine trip  
00:03:20 —HPCI initiation signal due to Turbine Trip  
00:03:52 —HPCI reset

**E. METHOD OF DISCOVERY:**

This event was discovered by Reactor Operators when the reactor scram was received.

**F. SAFETY SYSTEM RESPONSES:**

All safety systems responded per design.

**II. CAUSE OF EVENT:**

Station personnel did not identify that the Restoring Arm Breakdown (RAB) was incorrectly installed and therefore non-functional. Vendors improperly installed the RAB initially and again in 2015. There is no NMP maintenance strategy to identify the correct installation of the RAB. Station personnel dispatched had limited maintenance procedural guidance and were unfamiliar with TSV 13 internal bypass mechanism, and therefore unable to recognize the equipment failure when directed to inspect the RAB mechanism. This resulted in ineffective knowledge-based troubleshooting to correct a condition as opposed to corrections with controlled technical guidance and the right expertise.

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**NARRATIVE****III. ANALYSIS OF THE EVENT:**

The automatic reactor scram and specified system activation is reportable under 10 CFR 50.72(b)(2)(iv)(B) and 10 CFR 50.73(a)(2)(iv)(A), as any event or condition that resulted in manual or automatic action of any of the specified systems listed in 10 CFR 50.73(a)(2)(iv)(B).

All other plant systems performed per design. Plant parameters, other than the RPV pressure, remained within normal values throughout the event. There was no loss of offsite power to the onsite emergency buses, the HPCI mode of feed and condensate system initiated as designed on the turbine trip signal.

Based on the above discussion, it is concluded that the safety significance of this event is low and the event did not pose a threat to the health and safety of the public or plant personnel.

This event does affect the NRC Regulatory Oversight Process Indicator for unplanned scrams per 7000 hours of critical operation.

**IV. CORRECTIVE ACTIONS:****A. ACTION TAKEN TO RETURN AFFECTED SYSTEMS TO PRE-EVENT NORMAL STATUS:**

The Restoring Arm Breakdown was returned to the proper position and tested satisfactorily.

**B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:**

1. Revise Turbine Stop Valve Stroke Time Testing procedure and develop a comprehensive maintenance strategy.
2. Ensure qualified IMD personnel on MHC are proficient in the TSV internal bypass and procedures.

**V. ADDITIONAL INFORMATION:****A. FAILED COMPONENTS:**

Turbine Stop Valve (TSV) -13, Restoring Arm Breakdown

**B. PREVIOUS LERs ON SIMILAR EVENTS:**

None

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**NARRATIVE**

**C. THE ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIIIS) COMPONENT FUNCTION IDENTIFIER AND SYSTEM NAME OF EACH COMPONENT OR SYSTEM REFERRED TO IN THIS LER:**

<u>COMPONENT</u>	<u>IEEE 803 FUNCTION IDENTIFIER</u>	<u>IEEE 805 SYSTEM IDENTIFICATION</u>
Reactor Pressure Vessel	RPV	AD
Feedwater Level Control System	N/A	JB
High Pressure Coolant Injection System	N/A	BJ
Reactor Protection System	N/A	JC
Turbine Stop Valve	PCV	JA
Main Turbine	TRB	TA